

IN THE CLAIMS:

Please amend the claims as follows:

Claim 1 (Currently Amended): An X-ray tube for emitting X-rays through a transmission window, comprising:

a closed vessel including an opening for defining said transmission window, said closed vessel having a glass faceplate which contains an alkaline ion and which has an opening corresponding to said transmission window, said glass faceplate having: a first major surface at least a part of which constitutes a part of a vacuum inner space of said closed vessel, a second major surface opposing said first major surface, and a through hole communicating between said first and second major surfaces;

an electron source, arranged in said closed vessel, for emitting electrons;

an X-ray target, arranged in said closed vessel a space defined by an inner wall of said through hole of said glass faceplate, receiving the electrons emitted from said electron source and generating the X-rays; and

a silicon foil constituting said transmission window and having a thickness of 3 μm or more but 30 μm or less, said silicon foil being directly affixed on said glass faceplate by an anode bonding, while entirely covering said opening one opening end of said through hole of said glass faceplate.

Claims 2-3 (Canceled).

Claim 4 (Currently Amended): An X-ray tube according to claim 11, wherein said top part ~~glass faceplate~~ has a minimum outer diameter larger than a maximum outer diameter of said silicon foil.

Claim 5 (Canceled).

Claim 6 (Previously Presented): An X-ray tube according to claim 11, wherein said silicon foil has a thickness of 3 μm or more but 10 μm or less.

Claim 7 (Currently Amended): An X-ray tube according to claim 11,
wherein said top part has: a first major surface at least a part of which constitutes a part of a vacuum inner space of said closed vessel, a second major surface opposing said first major surface, and a through hole communicating between said first and second major surfaces and corresponding to said opening of said top part, and

wherein said X-ray target is deposited on said inner surface of said silicon foil arranged in a space defined by an inner wall of said through hole of said top part.

Claim 8 (Currently Amended): An X-ray tube according to claim 11, wherein said opening of said ~~closed vessel~~ top part has a mesh structure so that said transmission window is divided into a plurality of sections.

Claim 9 (Currently Amended): An X-ray tube according to claim 11, wherein said opening of said ~~closed vessel top part~~ is composed by a plurality of through-holes, each corresponding to said transmission window.

Claim 10 (Currently Amended): An X-ray tube according to claim 1, wherein a part of said silicon foil, which directly faces inside said closed vessel through said opening of said ~~closed vessel top part~~, is convexed toward the inside of said closed vessel.

Claim 11 (Currently Amended): An X-ray tube for emitting X-rays through a transmission window, comprising:

an electron source for emitting electrons;

an X-ray target for receiving the electrons emitted from said electron source and generating the X-rays;
a closed vessel accomodating at least said electron source and said X-ray target and including an opening for defining said transmission window, said closed vessel having a single glass body which contains an alkaline ion, said single glass body being constituted by: a hollow part in which at least said electron source is arranged, and a top part which continues from said hollow part and has an opening for defining a glass faceplate which has an opening corresponding to said transmission window;

an electron source, arranged in said closed vessel, for emitting electrons[[:]]

an X-ray target, arranged in said closed vessel, receiving the electrons emitted from said electron source and generating the X-rays; and

a silicon foil constituting said transmission window and having a thickness of 3 μm or more but 30 μm or less, said silicon foil being directly affixed on an outer surface of said ~~glass faceplate top part~~, while entirely covering said opening of said ~~glass faceplate top part~~; and a protection electrode deposited provided on a region including an edge of said opening of said top part, said region constituting at least a part of an inner surface of said glass faceplate top part which opposes said outer surface of said glass faceplate and directly faces inside said closed vessel.

Claim 12 (Currently Amended): An X-ray tube for emitting X-rays through a transmission window, comprising:

a closed vessel including an opening for defining said transmission window and having:

a glass main body which has an opening edge;
a metal flange attached on said opening edge of said main body and having an opening corresponding to or larger than said transmission window; and a glass faceplate having an opening corresponding which corresponds to said transmission window and has a maximum diameter smaller than a minimum diameter of said opening of said metal flange, at least a part of said glass faceplate being attached to said metal flange while the center of said opening of said glass faceplate corresponds to the center of said opening of said depression metal flange;

an electron source, arranged in said closed vessel, for emitting electrons;

an X-ray target, arranged in said closed vessel, receiving the electrons emitted from said

electron source and generating the X-rays; and

a silicon foil constituting said transmission window and having a thickness of 3 μm or more but 30 μm or less, said silicon foil being directly affixed on an outer surface of said metal flange glass faceplate, while covering said opening of said glass faceplate; and

a protection electrode provided on a region including an edge of said opening of said glass faceplate, said region constituting at least a part of an inner surface of said glass faceplate which is directly exposed inside said closed vessel through said opening of said metal flange and opposes said outer surface of said glass faceplate.

Claim 13 (Previously Presented): An X-ray tube according to claim 12, wherein said glass faceplate contains an alkaline ion, and said silicon foil is directly affixed on said outer surface of said glass faceplate by an anodic bonding.

Claim 14 (Currently Amended): An X-ray tube according to claim 13, ~~wherein a minimum diameter of said opening of said glass faceplate is smaller than that of said opening of said metal flange, and~~

wherein said X-ray tube further comprises a protection electrode deposited on an inner surface of said glass faceplate which opposes ~~said an~~ outer surface of said silicon foil and directly faces inside said closed vessel.

Claim 15 (Previously Presented): An X-ray tube according to claim 13, wherein said glass faceplate has a minimum outer diameter larger than a maximum outer diameter of said silicon foil.

Claim 16 (Previously Presented): An X-ray tube according to claim 13, wherein said glass faceplate has a sectional shape where a thickness of a peripheral part thereof is thinner than that of an inner side part thereof defining said transmission window.

Claim 17 (Previously Presented): An X-ray tube according to claim 12, wherein said silicon foil has a thickness of 3 μm or more but 10 μm or less.

Claim 18 (Currently Amended): An X-ray tube according to claim 12,
wherein said glass faceplate has: a first major surface at least a part of which constitutes a
part of a vacuum inner space of said closed vessel, a second major surface opposing said first
major surface, and a through hole which communicates between said first and second major
surfaces and which corresponds to said opening of said glass faceplate, and
wherein said X-ray target is deposited on an inner surface of said silicon foil which
~~opposes said outer surface of said silicon foil and directly faces inside said closed vessel~~
arranged in a space defined by an inner wall of said through hole of said glass faceplate.

Claim 19 (Previously Presented): An X-ray tube according to claim 12, wherein said opening of said closed vessel has a mesh structure so that said transmission window is divided into a plurality of sections.

Claim 20 (Previously Presented): An X-ray tube according to claim 12, wherein said opening of said closed vessel is composed by a plurality of through-holes, each corresponding to said transmission window.